Operating Manual

Version 1.1.1

Index plates

IT 150

1 Scope of application

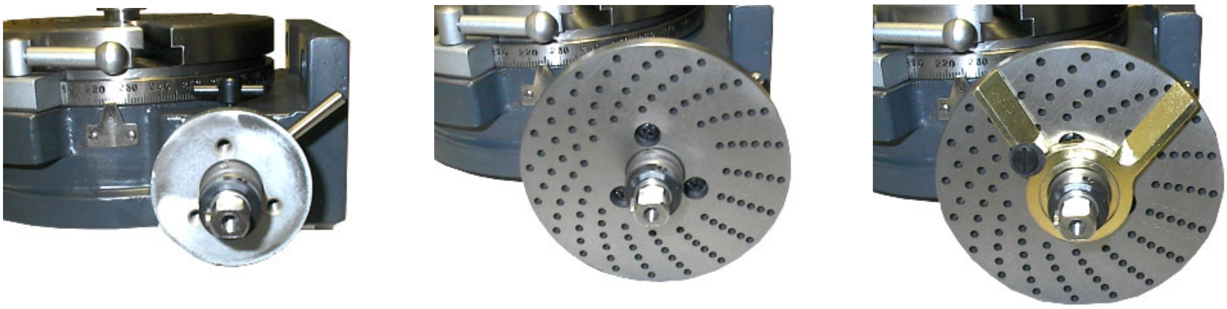
The index plates are used in dividing attachments for plain dividing.

2 Extent of supply IT 150

- 3 pc. index plates
- Sector arm
- Dividing shear with spring steel plate

3 Assembly

Assembling the index plate on the dividing attachment.

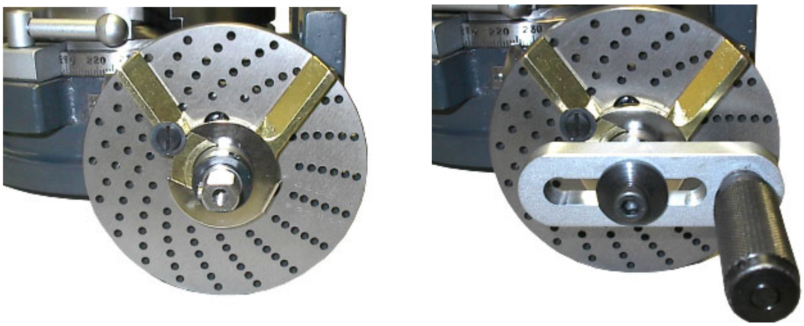


→ Detach the handwheel.

→ Place the index plate on the shaft.

→ Fit the index plate in place using the screws.

→ Place the dividing shear on the shaft.



→ Attach the dividing shear with the spring steel plate.

→ Attach the sector arm.

Img. 3-1: Assembling the index plate

4 Index plate types IT 150

Index plate	Pitch circle [T] , number of bore holes on the pitch circle
A	15 , 16 , 17 , 18 , 19 , 20
B	21 , 23 , 27 , 29 , 31 , 33
C	37 , 39 , 41, 43 , 47 , 49

5 Pitch circle calculation

Transmission ratio [i]

Number of divisions [D]

Number of circles,
where the number is a simple fraction, a compound fraction or an integer. [n_k]

Angular degrees [α]

5.1 Examples of pitch circle calculation

Example 1:

i = 90

D = 45

$$n_k = \frac{90}{45} = 2$$

In order to obtain 45 divisions on the circumference of the workpiece, the dividing crank has to be turned 2 full circles for each section.

Example 2:

i = 90

α = 23° angular degrees

$$n_k = \frac{\alpha \times i}{360°} = \frac{23° x 90}{360°} = 5,75 = 5\frac{3}{4} = 5\frac{15}{20}$$

In order to obtain divisions with 23° angular degrees each on the circumference of the workpiece, the dividing crank has to be turned 5 full circles and 15 hole pitches on the index plate A with 20 bore holes on the pitch circle for each section.

Example 3:

i = 90

D = 128

$$n_k = \frac{i}{T} = \frac{90}{130} = \frac{9}{13} = \frac{18}{26} = \frac{27}{39}$$

In order to obtain 130 divisions on the circumference of the workpiece, the dividing crank has to be turned 27 bore holes on the index plate with 39 bore holes for each section.

INFORMATION

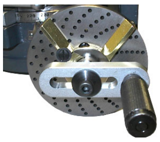
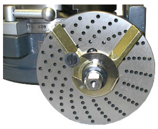
The table below gives possible divisions for each index plate.

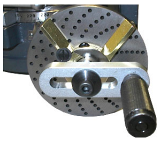
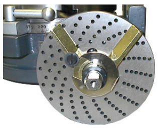
If necessary, use a calculator for divisions of over 280. Re-calculate the decimal result shown on the calculator as a fraction.

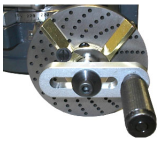
6 Pitch circle table IT 150

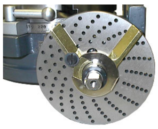
INFORMATION

If the divisions you want are not included in the following tables, you must have an index head with an optional compensating division installed.

																				
		Valid for transmission ratio 90 : 1																		
Division	Circles	Pitch circle																		
		15	16	17	18	19	20	21	22	23	27	29	31	33	37	39	41	43	47	49
1	90																			
2	45																			
3	30																			
4	22		8		9		10		11											
5	18																			
6	15																			
7	12							18												42
8	11		4				5													
9	10																			
10	9																			
11	8								4					6						
12	7		8		9		10		11											
13	6															36				
14	6							9												21
15	6																			
16	5		10																	
17	5			5																
18	5																			
19	4					14														
20	4		8		9		10		11											
21	4							6												14
22	4								2					3						
23	3									21										
24	3		12				15													
25	3	9					12													
26	3															18				
27	3	5			6			7			9			11		13				
28	3																			
29	3											3								
31	2												28							
32	2		13																	
33	2								16					24						
34	2			11																
35	2							12												28

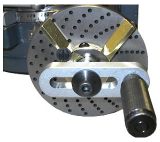
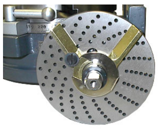
																				
		Valid for transmission ratio 90 : 1																		
Division	Circles	Pitch circle																		
		15	16	17	18	19	20	21	22	23	27	29	31	33	37	39	41	43	47	49
36	2		8		9		10		11											
37	2														16					
38	2					7														
39	2															12				
40	2		4				5													
41	2																8			
42	2							3												7
43	2																	4		
44	2								1											
45	2																			
46	1									22										
47	1																		43	
48	1		14																	
49	1																			41
50	1	12					16													
51	1			13																
52	1																			
53	1																			
54	1	10			12			14			18			22		26				
55	1								14					21						
56	1																			
57	1					11														
58	1											16								
59	1																			
60	1		8		9		10		11											
61	1																			
62	1												14							
63	1							9												21
64	1																			
65	1															15				
66	1								8					12						
67	1																			
68	1																			
69	1									7										
70	1							6												14
71	1																			
72	1		4				5													
73	1																			
74	1														8					
75	1	3					4													

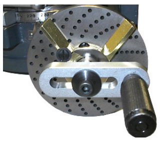
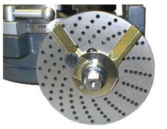




Valid for transmission ratio 90 : 1

Division	Circles	Pitch circle																		
		15	16	17	18	19	20	21	22	23	27	29	31	33	37	39	41	43	47	49
76	1																			
77	1																			
78	1															6				
79	1																			
80	1		2																	
81	1				2						3									
82	1																4			
83	1																			
84	1																			
85	1			1																
86	1																	2		
87	1											1								
88	1																			
89	1																			
90	1																			
93	0												30							
94	0																		45	
95	0					18														
96	0		15																	
98	0																			45
99	0								20					30						
100	0						18													
102	0			15																
105	0							18												42
108	0				15															
110	0								18					27						
111	0														30					
114	0					15														
115	0									18										
117	0															30				
119	0																			
120	0		12				15													
123	0																30			
126	0							15												35
129	0																	30		
130	0															27				
132	0								15											
135	0	10			12			14			18			22		26				
138	0									15										
141	0																		30	

																				
		Valid for transmission ratio 90 : 1																		
Division	Circles	Pitch circle																		
		15	16	17	18	19	20	21	22	23	27	29	31	33	37	39	41	43	47	49
144	0		10																	
145	0											18								
147	0																			30
149	0																			
150	0	9					12													
152	0																			
153	0			10																
155	0												18							
160	0		9																	
161	0																			
162	0				10						15									
163	0																			
165	0								12					18						
170	0			9																
171	0					10														
174	0											15								
175	0																			
180	0		8		9		10		11											
181	0																			
182	0																			
183	0																			
185	0														18					
186	0												15							
189	0							10												
190	0					9														
195	0															18				
198	0								10					15						
199	0																			
200	0						9													
205	0																18			
207	0									10										
210	0							9												21
215	0																	18		
220	0								9											
222	0														15					
225	0	6					8													
230	0									9										
234	0															15				
235	0																		18	
240	0		6																	

																				
		Valid for transmission ratio 90 : 1																		
Division	Circles	Pitch circle																		
		15	16	17	18	19	20	21	22	23	27	29	31	33	37	39	41	43	47	49
243	0										10									
245	0																			18
246	0																15			
255	0			6																
258	0																	15		
261	0											10								
270	0	5			6			7			9			11		13				
279	0												10							
282	0																		15	